

ENERGY RESIDENCY

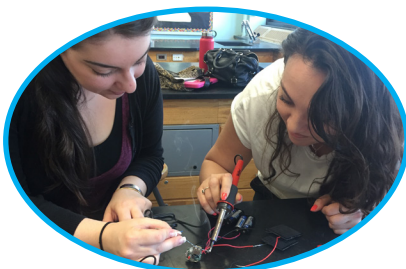
Energizing Youth to Combat the Climate Crisis.



Solar One’s K-12 Education Program – Green Design Lab™ – explores urban environmental sustainability and climate action through place-based STEAM programming and curriculum. Solar One’s curriculum provides teachers with hands-on lessons and resources to increase environmental knowledge around Energy, Water, Materials Science, and Food. Solar One’s K-12 programs include classroom residencies that blend science with climate justice, co-teaching that trains students and teachers in clean energy and solar hard skills, professional development trainings that prepare teachers to bring renewable energy to life in their classrooms, green career internships that support youth leadership and workshops that turn students into advocates for sustainability in their schools and communities.

Workshops for Students	Student Program Options	Cost
<ul style="list-style-type: none"> • Delivery of one, three, or six sessions of GDL lessons for up to four classes per day • Hands-on activities • Remote and Hybrid options available 	After school workshop: 1.5 Hours of a GDL Lesson or StuyCove Field Trip	\$412
<p>Workshops Include:</p> <ul style="list-style-type: none"> • Materials for hands-on projects such as building solar race cars, wind turbine design, energy auditing and much more! • Planning and preparation with participating teacher 	Single Session workshop: 4 classes in 1 day	\$1,017
	3 session workshop: 4 classes in 1 day per week over 3 weeks	\$2,900
	6 Session workshop: 4 classes in 1 day per week over 6 weeks	\$5,800
	Customizable workshop: Please contact us for more information.	TBD

Professional Development	Professional Development Options	Cost
<p>Solar One educators provide custom professional development training for teachers focused on exploring hands-on activities that are aligned with NGSS and the updated NYS P-12 Science Standards. <i>(Virtual or In-Person options)</i></p>	Half Day PD: 3-hour PD Including GDL Curriculum access	\$559
<p>Workshops Include: GDL Curriculum Access and Post Session resources</p>	Full Day PD: One full day, or two half-day PD workshops for teachers. All teachers will receive curriculum access and ongoing support from Solar One educators as needed.	\$1,118



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Intro to Energy

Students gain an understanding of basic energy concepts including energy efficiency and the law of conservation of energy. In small groups, students perform experiments to transform different forms of energy such as radiant using solar panels, sound energy using tuning forks and mechanical energy using motors.

Activity - Energy Transfer Lab

3-12

Fun with Circuits Lab

Through class discussion and hands-on exploration, students are introduced to the concepts of energy conservation and efficiency. Students will learn how much electricity is used by common electrical appliances and will identify phantom loads in their classroom.

Activity- Play-Doh Circuits

3-12

Fossil Fuel Extraction

Students are introduced to the basics of fossil fuel creation and extraction and will discuss the negative impacts of fossil fuels on public health and the environment. Students participate in a simulation where chocolate chip cookies are used to model the environmental damage that occurs through fossil fuel extraction.

Activity - Cookie Mining

3-8

Energy Conservation

Through class discussion and hands-on exploration, students are introduced to the concepts of energy conservation and efficiency. Students will learn how much electricity is used by common electrical appliances and will identify phantom loads in their classroom.

Activity - Watt Game and Energy Audit

3-12

Climate and the Carbon Cycle

Through an interactive game, students explore the different carbon reservoirs and explore how human activity is causing an imbalance in the carbon cycle leading to climate change.

Activity - Carbon Cycle Game

7-12

Energy Storage

Students gain an understanding of the importance of energy storage to the future of renewable energy implementation. Students learn how a battery works and will design and construct an aluminum air battery using non-toxic household materials.

Activity - Building Batteries

3-12

Design a Turbine Lab

Students explore the benefits and challenges of wind power in NYC. In a hands-on experiment, students design and construct model wind turbines, measure the power they produce, and then refine their designs to optimize output.

Activity- Designing Wind Turbines

3-12

Solar Ovens

Students gain an understanding of the importance of energy storage to the future of renewable energy implementation. Students learn how a battery works and will design and construct an aluminum air battery using non-toxic household materials.

Activity - Building Solar Ovens

Session can be 90 minutes and over 2 days

3-12

Solar Field Study Lab

Through hands-on experiments using small solar panels, students will observe how different variables, such as angle and shading affect electricity production. Students can then apply this knowledge to real world solar installations.

Activity - Energy Transfer Lab
Note: Activity is Best Outdoors

3-12

Racing Solar Cars

Students explore how solar photovoltaics work. They will also design and construct mini solar powered cars with a motor that they can take home.

Activity - Solar Cars

Session can be 90 minutes and over 2 days

3-12

